

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-15 (cancelled).

Claim 16 (original): A method of inspecting a borehole containing a slurry, said method comprising:

- lowering a camera assembly into the slurry, said camera assembly having a reference weight in air;
- determining a velocity at which the camera assembly is lowered;
- measuring a buoyant weight of the camera assembly in the slurry;
- determining a density of the slurry as a function of a comparison between the measured buoyant weight of the camera assembly in the slurry and the reference weight of the camera assembly in air.

Claim 17 (currently amended): A system for visually inspecting an interior surface of a construction borehole containing a slurry, said system comprising:

- a camera assembly, said camera assembly comprising:
 - a portable camera for generating images of a portion of the interior surface of the borehole and for generating signals representative of the generated images;
 - a light source for illuminating an area adjacent the camera thereby enabling the images of the interior surface of the borehole to be generated by the camera;
 - a housing for the camera and the light source, said housing providing the camera with viewing access and adapted to be lowered into the borehole;
 - a viewing envelope positioned adjacent the camera and external to the housing, said viewing envelope comprising a transparent shell defining a fluid chamber and defining a viewing area adjacent the camera, said light source illuminating the

viewing area, and said viewing envelope having a width ~~substantially~~ less than a width of the construction borehole; and

a load cell for measuring a buoyant weight of the camera assembly in the slurry relative to a reference weight of the camera assembly in air; and

a computer receiving and responsive to the measured buoyant weight for determining a density of the slurry in the borehole.

Claim 18 (original): The system of claim 17 further comprising a video recorder for recording the images generated by the camera.

Claim 19 (original): The system of claim 17 further comprising a monitor receiving and responsive to the signals from the camera for displaying the images generated by the camera.

Claim 20 (original): The system of claim 17 further comprising an image processor for acquiring an image of the interior surface of the borehole from the images generated by the camera and for processing the acquired image.

Claim 21 (original): The system of claim 20 wherein the images generated by the camera each include a plurality of pixels, said pixels each having a value representative of an optical characteristic of the images, and wherein the image processor processes the acquired image of the interior surface of the borehole as a function of the pixel values.

Claim 22 (original): The system of claim 17 further comprising a rechargeable power supply for supplying power to the camera and/or the monitor.

Claim 23 (original): The system of claim 17 wherein the fluid chamber of the viewing envelope is filled with water.

Claim 24 (original): The system of claim 17 wherein the transparent shell comprises a rigid plastic.

Claim 25 (original): The system of claim 17 wherein the transparent shell comprises a flexible plastic.

Claim 26 (original): The system of claim 17 further comprising a rotational motion stage for tilting the camera in a plane relative to an axis of the housing.

Claim 27 (original): The system of claim 17 further comprising a rotational motion stage for rotating the camera about an axis of the housing.

Claim 28 (original): The system of claim 17 further comprising a probe for use with the housing for measuring penetration on a bottom of the borehole and determining an amount of a deposit at the bottom of the borehole and wherein at least one of the images generated by the camera displays the probe.

Claim 29 (original): The system of claim 28 wherein the probe comprises a graduated bar protruding from the housing and connected to the housing by a spring, said graduated bar being in the viewing area of the camera.

Claim 30 (original): The system of claim 17 wherein the housing includes a transparent dome through which the camera has viewing access.

Claim 31 (currently amended): The system of claim 17 wherein an outer width of the housing is ~~substantially~~ less than the width of the construction borehole.

Claim 32 (original): The system of claim 17 wherein the fluid chamber of the viewing envelope is filled with air.

Claim 33 (currently amended): A system for visually inspecting an interior surface of a construction borehole, said system comprising:

a portable camera for generating images of a portion of the interior surface of the borehole and for generating signals representative of the generated images, said camera defining

a viewing area adjacent the camera in which the images are generated;

a light source for illuminating at least a portion of the viewing area adjacent the camera thereby enabling the images of the interior surface of the borehole to be generated by the camera;

a housing for the camera and the light source, said housing adapted to be lowered into the borehole;

a probe for use with the housing for measuring a penetration resistance of the probe on a bottom of the borehole and determining an amount of a deposit at the bottom of the borehole as a function of the measured penetration resistance and wherein at least one of the images generated by the camera displays the probe; and

a monitor receiving and responsive to signals from the camera for displaying the images generated by the camera.

Claim 34 (original): The system of claim 33 further comprising a video recorder for recording the images generated by the camera.

Claim 35 (original): The system of claim 33 wherein the monitor comprises a computer having a display, said computer receiving the images generated by the camera and displaying the images on its display.

Claim 36 (original): The system of claim 35 further comprising an image processor for acquiring an image of the interior surface of the borehole from the images generated by the camera and for processing the acquired image.

Claim 37 (original): The system of claim 36 wherein the images generated by the camera each include a plurality of pixels, said pixels each having a value representative of an optical characteristic of the images, and wherein the image processor processes the acquired image of the interior surface of the borehole as a function of the pixel values.

Claim 38 (original): The system of claim 33 further comprising a rechargeable power supply for supplying power to the camera and/or the monitor.

Claim 39 (original): The system of claim 33 further comprising a viewing envelope positioned adjacent the camera, said viewing envelope defining a viewing area adjacent the camera, and wherein the light source illuminates the viewing area.

Claim 40 (original): The system of claim 39 wherein the viewing envelope comprises a transparent shell defining a fluid chamber.

Claim 41 (original): The system of claim 40 wherein the fluid chamber of the viewing envelope is filled with water.

Claim 42 (original): The system of claim 40 wherein the transparent shell comprises a rigid plastic.

Claim 43 (original): The system of claim 40 wherein the transparent shell comprises a flexible plastic.

Claim 44 (original): The system of claim 33 further comprising a motion control mechanism connected to the portable camera for controlling a viewing angle of the portable camera relative to an axis of the housing and comprising a rotational motion stage for tilting the viewing angle in a plane relative to the axis of the housing.

Claim 45 (original): The system of claim 33 further comprising a motion control mechanism connected to the portable camera for controlling a viewing angle of the portable camera relative to an axis of the housing and comprising a rotational motion stage for rotating the viewing angle about the axis of the housing.

Claim 46 (currently amended): A system for visually inspecting an interior surface of a construction borehole, said system comprising:

a portable camera for generating images of a portion of the interior surface of the borehole and for generating signals representative of the generated images, said camera defining

a viewing area adjacent the camera in which the images are generated;

a light source for illuminating at least a portion of the viewing area adjacent the camera thereby enabling the images of the interior surface of the borehole to be generated by the camera;

a housing for the camera and the light source, said housing adapted to be lowered into the borehole;

a probe for use with the housing for measuring a penetration of the probe on a bottom of the borehole and determining an amount of a deposit at the bottom of the borehole and wherein at least one of the images generated by the camera displays the probe, The system of claim 33 and wherein the probe comprises a graduated bar protruding from the housing and connected to the housing by a spring, said graduated bar being in the viewing area of the camera.; and

a monitor receiving and responsive to signals from the camera for displaying the images generated by the camera.